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Dated: April 12, 2002

APR 22 2002 JC106 PATENT TRADEMARK OFFICE

Our Case Docket No.: LJL 365

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

COPY OF PAPERS ORIGINALLY FILED

ROBERT H. GIEBELER, DAVID G. OGLE,
ROGER A. KAYE, STEVEN A. MCNERNEY,
GILLIAN M. HUMPHRIES, DEAN G. HAFEMAN
and DOUGLAS N. MODLIN

Serial No. : 10/061,416
Filed : February 1, 2002
For : FLUID DELIVERY AND ANALYSIS SYSTEMS

Group Art Unit 1743

RECEIVED
APR 24 2002
TC 1700

Commissioner for Patents
Washington, D.C. 20231

Sir:

Transmitted herewith is a **PRELIMINARY AMENDMENT** for filing in the above-identified application.

The fee has been calculated as shown below
Claims as Amended
SMALL ENTITY

| (1) | (2) Claims remaining after amendment | (3) | (4) Highest number previously paid for | (5) Present extra | (6) Rate | (7) Additional fee |
|---|---|---|---|---|---|---|
| Total Claims | 40 | Minus | 40 | 0 | $ 00.00 | = $ 00.00 |
| Independent Claims | 09 | Minus | 09 | 0 | $ 00.00 | = $ 00.00 |
| | | | The additional fee for this amendment | | | $ 00.00 |

X No additional fees are required.

Respectfully submitted,

KOLISCH, HARTWELL, DICKINSON,
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JRA:rlk
Enclosure

#3

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

ROBERT H. GIEBELER, DAVID G. OGLE, ROGER A. KAYE, STEVEN A. MCNERNEY, GILLIAN M. HUMPHRIES, DEAN G. HAFEMAN and DOUGLAS N. MODLIN

Dated: April 12, 2002

Serial No. : 10/061,416

Group Art Unit 1743



Filed : February 1, 2002

For : FLUID DELIVERY AND ANALYSIS SYSTEMS



Commissioner of Patents
Washington, D.C. 20231

Sir:

**PRELIMINARY AMENDMENT**

Prior to examination on the merits, Applicants respectfully request that the above-identified application be amended as follows:

In the Specification:

Please replace paragraph **0002** with the following amended paragraph:

--This application also is a continuation-in-part of and claims priority from U.S. Patent Application Serial No. 09/274,792, filed March 23, 1999, which in turn is based upon and claims the benefit under 35 U.S.C. § 119 of U.S. Provisional Patent Application Serial No. 60/096,999, filed August 18, 1998. These priority applications are both incorporated herein by reference.--

Please replace paragraph **0005** with the following amended paragraph:

--This application incorporates by reference in their entirety for all purposes the following U.S. Patent Applications: Serial No. 09/337,623, filed June 21, 1999; Serial No. 09/349,733, filed July 8, 1999; Serial No. 09/478,819, filed January 5, 2000; Serial No. 09/581,837, filed July 28, 1998; Serial No. 09/596,444, filed June 19, 2000; Serial No. 09/626,208, filed July 26, 2000; Serial No. 09/643,221, filed August 18, 2000; Serial No. 09/708,905, filed November 8, 2000; Serial No. 09/710,061, filed November 10, 2000; Serial No. 09/722,247, filed November 24, 2000; Serial No. 09/759,711, filed January 12, 2001; Serial No. 09/765,869, filed January 19, 2001; Serial No. 09/765,874, filed January 19, 2001; Serial No. 09/766,131, filed January 19, 2001; Serial No. 09/767,316, filed January 22, 2001; Serial No. 09/767,434, filed January 22, 2001; Serial No. 09/767,579, filed January 22, 2001; Serial No. 09/767,583, filed January 22, 2001; Serial No. 09/768,661, filed January 23, 2001; Serial No. 09/768,742, filed January 23, 2001; Serial No. 09/768,765, filed January 23, 2001; Serial No. 09/770,720, filed January 25, 2001; Serial No. 09/770,724, filed January 25, 2001; Serial No. 09/777,343, filed February 5, 2001; Serial No. 09/836,575, filed April 16, 2001; Serial No. 09/844,655, filed April 27, 2001; Serial No. 09/952,461, filed September 14, 2001; Serial No. 09/957,116, filed September 19, 2001; Serial No. 10/003,030, filed October 29, 2001; Serial No. 10/012,255, filed November 12, 2001; and Serial No. 10/000,172, filed November 30, 2001.--

Please replace paragraph **0030** with the following amended paragraph:

--Figure 2 is a cross-sectional view of the instrument system of Figure 1, showing details of the fluidics module, analysis module, and transport module. The fluidics module includes a dispense system having a dispense assembly for dispensing fluid, and a material exchange system having a plurality of carriages for transporting materials to and from the dispense assembly. The analysis module includes a light source, a detector, and optics adapted to direct light from the light source to a sample holder such as a microplate positioned in an examination site, and from the sample holder to the detector. The analysis module further may include optics adapted to select the intensity, wavelength, and/or polarization of the light incident on the sample holder from the detector, and on the detector from the sample holder. The transport module includes a sample holder support fixture for supporting the sample holder and a drive system for moving the sample holder support fixture between loading/unloading positions and dispense/examination positions. The exchange positions of the fluidics module and the examination site of the analysis module may be separated by an integral openable/closable door that reduces or eliminates airflow and light leaks.--

Please replace paragraph **0097** with the following amended paragraph:

--The present invention overcomes these problems through the use of a virtual lid in combination with a temperature control system. In the preferred embodiment, fixture 1101 moves multiwell plate 1011 to an area 1115 between system readings. A lid is directly above this area (not shown). Additional members, for example made of foam, also can be used to further enclose the multiwell plate when it is in area 1115. The bottom plate 1207 of optics head 1201 rests on the tip side of the lid (i.e., opposite to the reading chamber). An opening exists in both bottom plate 1207 and the lid, thus allowing excitation and emission light to pass from optics head to the samples contained in the multiwell plates within the reading chamber. Preferably the dimensions of the opening are about 1.2 millimeters by 104 millimeters. When fixture 1101 moves multiwell plate 1011 below the lid, the lid surface is approximately 10 millimeters above the surface of the multiwell plate and the sides of the multiwell plate are tightly confined. As such, once the multiwell plate is moved into resting position 1115 and the access door (not shown) has been closed, the humidity above the plate rises to more than 90 percent, thus reducing evaporative cooling. This system reduces the variations from sample well to sample well within a multiwell plate to preferably less than about $\pm$0.2 °C, and generally to less than about $\pm$0.5 °C.--

Please replace paragraph **0098** with the following amended paragraph:

--In the illustrated embodiment, variations in multiwell plate size are accommodated by using various adaptor plates. The adaptor plates not only ensure that the multiwell plate fits support frame 1103, they also can be used to ensure that the top of the multiwell plate is sufficiently close to the surface of the lid to minimize temperature variations between the wells. In an alternate embodiment, the relative distance between the lid and the top of a multiwell plate in fixture 1101 can be optimized by adjusting either the vertical position of the lid or the carriage assembly carrying multiwell plate 1011. In this embodiment, either the lid or the carriage assembly is coupled to a motor, the motor under the control of the internal processor. Preferably a sensor (e.g., optical sensor, mechanical position sensor, etc.), it is used in conjunction with this motor and the internal processor to control the separation between the multiwell plate and the lid. Alternatively, the user can input the type of multiwell plate in use and the internal processor can use a look-up table to determine the amount of adjustment necessary for the type of multiwell plate in use.--

Please replace paragraph **0099** with the following amended paragraph:

--Figure 14 is an illustration of a portion of a temperature control system. To control the temperature of area 1115 as well as the rest of the reading chamber, one or more heaters are attached to various portions of the reading chamber. Preferably the heaters are attached to the lid. One or more temperature monitors (e.g., thermistors) are used to monitor the temperature of the reading chamber. An outer cover 1407 is coupled to the lid to facilitate temperature control within this area. Other covers such as an internal cover 1409 and an outer cover 1411 enclose the remaining upper portion of the reading chamber, thus further aiding in controlling the temperature of the system.--

## REMARKS

The foregoing amendment replaces paragraphs **0002, 0005, 0030,** and **0097-0099** of the specification with amended paragraphs **0002, 0005, 0030,** and **0097-0099,** correcting several minor typographical errors, and providing a serial number that was not available at the time of filing for a cross-referenced patent application.

Please contact the undersigned attorney with any questions or comments regarding this amendment.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on April 12, 2002.

Renee Knight

23581
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Respectfully submitted,

KOLISCH, HARTWELL, DICKINSON, McCORMACK & HEUSER

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VERSION WITH MARKINGS TO SHOW CHANGES

Paragraphs **0002**, **0005**, **0030**, and **0097-0099** have been amended as shown below (material to be inserted is in **bold and underline**, material to be deleted is in [~~brackets and strikeout~~]).

Paragraph **0002** has been amended as follows:

This application also is a continuation-in-part of and claims priority from U.S. [~~patent application~~] **Patent Application** Serial No. 09/274,792, filed March 23, 1999, which in turn is based upon and claims the benefit under 35 U.S.C. § 119 of U.S. Provisional Patent Application Serial No. [~~09/274,792~~]**60/096,999**, filed [~~March 23, 1999~~]**August 18, 1998**. These priority applications are both incorporated herein by reference.

Paragraph **0005** has been amended as follows:

This application incorporates by reference in their entirety for all purposes the following U.S. Patent Applications: Serial No. 09/337,623, filed June 21, 1999; Serial No. 09/349,733, filed July 8, 1999; Serial No. 09/478,819, filed January 5, 2000; Serial No. 09/581,837, filed July 28, 1998; Serial No. 09/596,444, filed June 19, 2000; Serial No. 09/626,208, filed July 26, 2000; Serial No. 09/643,221, filed August 18, 2000; Serial No. 09/708,905, filed November 8, 2000; Serial No. 09/710,061, filed November 10, 2000; Serial No. 09/722,247, filed November 24, 2000; Serial No. 09/759,711, filed January 12, 2001; Serial No. 09/765,869, filed January 19, 2001; Serial No. 09/765,874, filed January 19, 2001; Serial No. 09/766,131, filed January 19, 2001; Serial No. 09/767,316, filed January 22, 2001; Serial No. 09/767,434, filed January 22, 2001; Serial No. 09/767,579, filed January 22, 2001; Serial No. 09/767,583, filed January 22, 2001; Serial No. 09/768,661, filed January 23, 2001; Serial No. 09/768,742, filed January 23, 2001; Serial No. 09/768,765, filed January 23, 2001; Serial No. 09/770,720, filed January 25, 2001; Serial No. 09/770,724, filed January 25, 2001; Serial No. 09/777,343, filed February 5, 2001; Serial No. 09/836,575, filed April 16, 2001; Serial No. 09/844,655, filed April 27, 2001; Serial No. 09/952,461, filed September 14, 2001; Serial No. 09/957,116, filed September 19, 2001; Serial No. **10/003,030** [————], filed October 29, 2001, [~~titled LIGHT DETECTION DEVICE, and naming Joseph H. Jackson III, Dean G. Hafeman, and Todd French as inventors~~]; Serial No. 10/012,255, filed November 12, 2001; and Serial No. 10/000,172, filed November 30, 2001.

Paragraph **0030** has been amended as follows:

Figure 2 is a cross-sectional view of the instrument **system** [~~200~~] of Figure 1, showing details of the fluidics module [~~202~~], analysis module [~~204~~], and transport module [~~206~~]. The fluidics module includes a dispense system having a dispense assembly for dispensing fluid, and a material exchange system having a plurality of carriages for transporting materials to and from the dispense assembly. The analysis module includes a light source, a detector, and optics adapted to direct light from the light source to a sample holder such as a microplate positioned in an examination site, and from the sample holder to the detector. The analysis module further may include optics adapted to select the intensity, wavelength, and/or polarization of the light incident on the sample holder from the detector, and on the detector from the sample holder. The transport module includes a sample holder support fixture for supporting the sample holder and a drive system for moving the sample holder support fixture between loading/unloading positions and dispense/examination positions. The exchange positions of the fluidics module and the examination site of the analysis module may be separated by an integral openable/closable door that reduces or eliminates airflow and light leaks.

Paragraph **0097** has been amended as follows:

The present invention overcomes these problems through the use of a virtual lid in combination with a temperature control system. In the preferred embodiment, fixture 1101 moves multiwell plate [~~111~~] **1011** to an area 1115 between system readings. A lid [~~1401~~] is directly above this area (not shown). Additional members, for example made of foam, also can be used to further enclose the multiwell plate when it is in area 1115. The bottom plate 1207 of optics head 1201 rests on the tip side of **the** lid [~~1401~~] (i.e., opposite to **the** reading chamber [~~202~~]). An opening [~~1208~~] exists in both bottom plate 1207 and **the** lid [~~1401~~], thus allowing excitation and emission light to pass from optics head to the samples contained in the multiwell plates within **the reading** chamber [~~202~~]. Preferably the dimensions of **the** opening [1208] are about 1.2 millimeters by 104 millimeters. When fixture 1101 moves multiwell plate [~~111~~] **1011** below **the** lid [~~1401~~], the lid surface is approximately 10 millimeters above the surface of the multiwell plate and the sides of the multiwell plate are tightly confined. As such, once the multiwell plate is moved into resting position 1115 and the access door **(not shown)** [~~1116~~] has been closed, the humidity above the plate rises to more than 90 percent, thus reducing evaporative cooling. This system reduces the variations from sample well to sample well within a multiwell plate to preferably less than about $\pm$0.2 °C, and generally to less than about $\pm$0.5 °C.

Paragraph **0098** has been amended as follows:

In the illustrated embodiment, variations in multiwell plate size are accommodated by using various adaptor plates. The adaptor plates not only ensure that the multiwell plate fits support frame 1103, they also can be used to ensure that the top of the multiwell plate is sufficiently close to the surface of **the** lid [1401] to minimize temperature variations between the wells. In an alternate embodiment, the relative distance between **the** lid [~~1401~~] and the top of a multiwell plate in fixture 1101 can be optimized by adjusting either the vertical position of the lid or the carriage assembly carrying multiwell plate [~~111~~] **1011**. In this embodiment, either the lid or the carriage assembly is coupled to a motor, the motor under the control of the internal processor. Preferably a sensor (e.g., optical sensor, mechanical position sensor, etc.), it is used in conjunction with this motor and the internal processor to control the separation between the multiwell plate and **the** lid [~~1401~~]. Alternatively, the user can input the type of multiwell plate in use and the internal processor can use a look-up table to determine the amount of adjustment necessary for the type of multiwell plate in use.

Paragraph **0099** has been amended as follows:

Figure 14 is an illustration of a portion of a temperature control system. To control the temperature of area 1115 as well as the rest of **the** reading chamber [~~202~~], one or more heaters [~~1403~~] are attached to various portions of the reading chamber. Preferably **the** heaters [~~1403~~] are attached to **the** lid [~~1401 as shown~~]. One or more temperature monitors (e.g., thermistors) [~~1405~~] are used to monitor the temperature of the reading chamber. An outer cover 1407 is coupled to **the** lid [~~1401~~] to facilitate temperature control within this area. Other covers such as an internal cover 1409 and an outer cover 1411 enclose the remaining upper portion of the reading chamber, thus further aiding in controlling the temperature of the system.